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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/654,618	09/04/2003	Young-Chan Kim	1293.1851	5000

21171 7590 04/02/2007
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EXAMINER

SHERMAN, STEPHEN G

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/654,618

Applicant(s)

KIM ET AL.

Examiner

Stephen G. Sherman

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This office action is in response to the amendment filed the 5 March 2007.

Claims 1-58 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 6-8, 11-12, 17-19, 24-25, 29-30, 32-33, 38-49, 53-54 and 56-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Takano et al. (US 2005/0179822).

Regarding claim 1, Takano et al. disclose a display device (Figure 3) comprising:

a signal identifying unit that receives an input signal and identifies the type of the input signal (Figure 3 shows item 315 (1394 INTERFACE) which receives the input signals from bus 255 and uses LUT 312 to identify the types of signals as explained in paragraph [0031].);

a signal checking unit that checks whether the identified input signal is abnormal (Figure 3, USER INTERFACE 235 allows a user to check whether the current input signal is “abnormal” or not, i.e. the correct input signal, as explained in Figure 4, steps 445-465 and paragraph [0036]-[0038].); and

a signal changing unit that switches from the checked input signal to a next input signal to be checked based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal, if the identified input signal is determined to be abnormal (Figure 3 shows VIDEO SELECTION CIRCUIT 230 which is explained in paragraph [0037] to be able to switch between the different inputs AVO-AV2 and DV# based upon whether the input signal previously was detected to be “abnormal.”).

Regarding claim 2, Takano et al. disclose the display device of claim 1, wherein the signal identifying unit identifies whether the received input signal is one of a D-sub analog signal, a DVI analog signal, a DVI digital signal, and a VIDEO signal (Figure 3 and paragraph [0036] explain that the received input signal is a video signal.).

Regarding claim 3, Takano et al. disclose the display device of claim 1, wherein the signal checking unit checks whether the identified input signal is abnormal by one of decoding the identified input signal and sensing whether an input signal cable is connected to the display device (As explained in Figure 4 and paragraphs [0036] one input port is selected and the signal is displayed to the user, if no video is shown on the display then an input cable may not be connected to the display device, and hence this would be checked.).

Regarding claim 6, this claim is rejected under the same rationale as claim 1.

Regarding claim 7, this claim is rejected under the same rationale as claim 2.

Regarding claim 8, this claim is rejected under the same rationale as claim 3.

Regarding claim 11, Takano et al. disclose a display device comprising:

a signal identifying unit receiving an input signal and identifying the type of received input (Figure 3 shows item 315 (1394 INTERFACE) which receives the input signals from bus 255 and uses LUT 312 to identify the types of signals as explained in paragraph [0031].);

a signal checking unit checking whether the identified input signal is abnormal or normal (Figure 3, USER INTERFACE 235 allows a user to check whether the current

input signal is “abnormal” or not, i.e. the correct input signal, as explained in Figure 4, steps 445-465 and paragraph [0036]-[0038].);

a signal changing unit switching from the checked input signal to check a next input signal based on set data corresponding to the identified type of the input signal so that the signal checking unit checks whether the next input signal is abnormal (Figure 3 shows VIDEO SELECTION CIRCUIT 230 which is explained in paragraph [0037] to be able to switch between the different inputs AVO-AV2 and DV# based upon whether the input signal previously was detected to be “abnormal.”);

wherein if the checked input signal is normal, the signal continues being displayed by the display device and if the checked input signal is abnormal, the signal stops being displayed by the display device (As explained above, Figure 3, USER INTERFACE 235 allows a user to check whether the current input signal is “abnormal” or not, i.e. the correct input signal, as explained in Figure 4, steps 445-465 and paragraph [0036]-[0038]. Therefore if the user determines that the signal is correct, i.e. “normal”, then the video will continue to be displayed.).

Regarding claim 12, Takano et al. disclose the display device of claim 11, wherein the identified input signal and the next input signal are abnormal if cables carrying the signals are not connected to the display device (As explained in Figure 4 and paragraphs [0036] one input port is selected and the signal is displayed to the user, if no video is shown on the display then an input cable may not be connected to the display device, and hence this would be checked.).

Regarding claim 17, this claim is rejected under the same rationale as claim 2.

Regarding claim 18, this claim is rejected under the same rationale as claim 3.

Regarding claim 19, Takano et al. disclose the display device of claim 11, wherein the signal checking unit checks whether the identified input signal is abnormal by sensing whether an input signal cable is connected (As explained in Figure 4 and paragraphs [0036] one input port is selected and the signal is displayed to the user, if no video is shown on the display then an input cable may not be connected to the display device, and hence this would be checked.).

Regarding claim 24, Takano et al. disclose the display device of claim 11, further comprising a menu from which a user determines the identified input signal is to be checked and a checking order (Paragraph [0034]).

Regarding claim 25, this claim is rejected under the same rationale as claim 11.

Regarding claim 29, this claim is rejected under the same rationale as claim 17.

Regarding claim 30, this claim is rejected under the same rationale as claim 12.

Regarding claim 32, this claim is rejected under the same rationale as claim 18.

Regarding claim 33, this claim is rejected under the same rationale as claim 19.

Regarding claim 38, this claim is rejected under the same rationale as claim 24.

Regarding claim 39, this claim is rejected under the same rationale as claim 25.

Regarding claim 40, please refer to the rejection of claim 11, and furthermore Takano et al. also disclose that the input ports are what is being detected (Figure 3 shows that input ports 245 and 250 are where the input signals are inputted and thus the ports are what are being detected.), and wherein at least one of the input ports has priority in an order of checking by the signal changing unit as compared to another input port (Paragraphs [0034]-[0038] explain that the different ports are checked to find the correct input signal. Figure 4 shows that the first device is selected first and that the first analog video signal from the first device is checked first, which means that since the first device is selected first, it has a higher priority in the checking order.).

Regarding claim 41, Takano et al. disclose the displaying device of claim 40, wherein the order of checking of the input port is selected among a plurality of checking orders (Figure 6 and paragraph [0040] explain that a user can select which port to

check first, and since there are numerous ports, the user could select numerous orders in which to check the ports.).

Regarding claim 42, Takano et al. disclose the displaying device of claim 41, wherein the checking order is set by the user (As explained above, the user can select which port is checked, and thus can select the checking order.).

Regarding claim 43, Takano et al. disclose the displaying device of claim 42, wherein a menu is provided on a screen of the displaying device to set the checking order (Figure 6 and paragraph [0040].).

Regarding claim 44, this claim is rejected under the same rationale as claim 2.

Regarding claim 45, this claim is rejected under the same rationale as claim 3.

Regarding claim 46, Takano et al. disclose the displaying device of claim 40, wherein the displaying device is capable of displaying a computer signal (If a computer is connected to one of the input ports, the display device would certainly be capable of displaying the signal.).

Regarding claim 47, Takano et al. disclose a displaying device (Figure 1) comprising:

an analog input port for receiving an analog signal (Figure 1, ANALOG 120);
a digital input port for receiving a digital signal (Figure 1, DIGITAL 115); and
an input port changing unit for switching from the analog input port to the digital input port when the analog input port is not receiving a normal analog input signal (Paragraphs [0006]-[0007] explain that a user would have to switch between the analog and digital inputs using switch 135. If a digital video was played in the DVCR 110 and the analog input channel is selected, then a "normal" analog input signal would not be received. When nothing is displayed after the user presses 'play' then the user will switch to the digital channel, meaning that the switching unit 135 will switch based on the signal from digital interface 130 when the analog channel is not receiving a "normal" signal.).

Regarding claim 48, Takano et al. disclose a displaying device (Figure 1) comprising:

an analog input port for receiving an analog signal (Figure 1, ANALOG 120);
a digital input port for receiving a digital signal (Figure 1, DIGITAL 115); and
an input port changing unit for switching from the digital input port to the analog input port when the digital input port is not receiving a normal analog input signal (Paragraphs [0006]-[0007] explain that a user would have to switch between the analog and digital inputs using switch 135. If an analog video was played in the DVCR 110 and the digital input channel is selected, then a "normal" digital input signal would not be received. When nothing is displayed after the user presses 'play' then the user will

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switch to the analog channel, meaning that the switching unit 135 will switch based on the signal from digital interface 130 when the digital channel is not receiving a "normal" signal.).

Regarding claim 49, this claim is rejected under the same rationale as claim 40.

Regarding claim 53, this claim is rejected under the same rationale as claim 17.

Regarding claim 54, this claim is rejected under the same rationale as claim 3.

Regarding claim 56, this claim is rejected under the same rationale as claim 41.

Regarding claim 57, this claim is rejected under the same rationale as claim 42.

Regarding claim 58, this claim is rejected under the same rationale as claim 43.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 14-16, 26-28 and 50-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 2005/0179822).

Regarding claim 14, Takano et al. disclose the display device of claim 11.

Takano et al. fail to explicitly teach wherein the signal identifying unit identifies whether the received input signal is a D-sub analog signal, however, D-sub analog signals are well known in the art, therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made that one of the signals identified by Takano et al. could be a D-sub analog signal.

Regarding claim 15, Takano et al. disclose the display device of claim 11.

Takano et al. fail to explicitly teach wherein the signal identifying unit identifies whether the received input signal is a DVI analog signal, however, DVI analog signals are well known in the art, therefore it would have been obvious to "one of ordinary skill"

in the art at the time the invention was made that one of the signals identified by Takano et al. could be a DVI analog signal.

Regarding claim 16, Takano et al. disclose the display device of claim 11.

Takano et al. fail to explicitly teach wherein the signal identifying unit identifies whether the received input signal is a DVI digital signal, however, DVI digital signals are well known in the art, therefore it would have been obvious to “one of ordinary skill” in the art at the time the invention was made that one of the signals identified by Takano et al. could be a DVI digital signal.

Regarding claim 26, this claim is rejected under the same rationale as claim 14.

Regarding claim 27, this claim is rejected under the same rationale as claim 15.

Regarding claim 28, this claim is rejected under the same rationale as claim 16.

Regarding claim 50, this claim is rejected under the same rationale as claim 14.

Regarding claim 51, this claim is rejected under the same rationale as claim 15.

Regarding claim 52, this claim is rejected under the same rationale as claim 16.

8. Claims 4-5, 9-10, 13, 20-23, 31, 34-37 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takano et al. (US 2005/0179822) in view of Yamashita et al. (US 5,808,693).

Regarding claim 4, Takano et al. disclose the display device of claim 1.

Takano et al. fail to teach the display device further comprising a data setting unit that sets one of a number of times the identified input signal is checked, a time required to check the identified input signal, and a position of the identified input signal to be checked within a sequence of identified input signals to be checked, wherein if the signal checking unit has not checked one of the number of set times whether the identified input signal is abnormal and has not checked for the period of set time whether the identified input signal is abnormal, the signal checking unit continues checking whether the identified input signal is abnormal.

Yamashita et al. discloses a display device comprising a data setting unit that sets one of a number of times an identified input signal is checked, a time required to check the identified input signal, and a position of the identified input signal to be checked within a sequence of identified input signals to be checked (Figure 2 shows that a timer is set for checking the identified input signal),

wherein if a signal checking unit has not checked one of the number of set times whether the identified input signal is abnormal and has not checked for the period of set time whether the identified input signal is abnormal, the signal checking unit continues

checking whether the identified input signal is abnormal (Column 6, lines 1-32 and Figures 2 and 3 shows that the process repeats for checking the input signal abnormality.).

Therefore it would have been obvious to “one of ordinary skill” in the art at the time the invention was made to use the teachings of Yamashita et al. in the display device taught by Takano et al. in order to allow for enough time to check whether the input signal is the correct input signal or not.

Regarding claim 5, Takano et al. disclose the display device of claim 4, further comprising a signal controlling unit that checks the position of the checked input signal within the sequence of identified input signals to be checked to determine which identified input signal is to be checked after the checked input signal, wherein the signal changing unit switches from the checked input signal to the determined input signal so that the signal checking unit checks whether the determined input signal is abnormal (Paragraph [0037] explains that the video selection unit 230 switches to the next available analog input channel which means that there is an order to which the channels are selected, i.e. one after another in order, which means that the position is checked within the sequence to be able to switch to the next input.).

Regarding claim 9, this claim is rejected under the same rationale as claim 4.

Regarding claim 10, this claim is rejected under the same rationale as claim 5.

Regarding claim 13, Takano et al. disclose the display device of claim 11.

Takano et al. fails to teach wherein the identified input signal and the next input signal are abnormal if H-sync and V-sync patterns associated with the signals are abnormal.

Yamashita et al. disclose a display device wherein an identified input signal and a next input signal are abnormal if H-sync and V-sync patterns associated with the signals are abnormal (Column 4, lines 55-65 and column 5, lines 7-15.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the teachings of Yamashita et al. in the display device taught by Takano et al. in order to allow for a determination of whether an input signal is able to be displayed or not.

Regarding claim 20, Takano et al. disclose the display device of claim 11.

Takano et al. fail to teach the display device further comprising a data setting unit that sets the number of times the identified input signal is checked, wherein if the signal checking unit has not checked the number of set times, the signal checking unit continues the checking.

Yamashita et al. disclose a display device comprising a data setting unit that sets the number of times an identified input signal is checked, wherein if a signal checking unit has not checked the number of set times, the signal checking unit continues the checking (As shown in Figure 2 the number of times the input signal is checked is 1, so

when it hasn't been checked it is checked and after it is checked once it moves on to the next input signal.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to use the teachings of Yamashita et al. in the display device taught by Takano et al. in order to allow for enough time to check whether the input signal is the correct input signal or not.

Regarding claim 21, this claim is rejected under the same rationale as claim 4.

Regarding claim 22, this claim is rejected under the same rationale as claim 5.

Regarding claim 23, this claim is rejected under the same rationale as claim 5.

Regarding claim 31, this claim is rejected under the same rationale as claim 13.

Regarding claim 34, this claim is rejected under the same rationale as claim 20.

Regarding claim 35, this claim is rejected under the same rationale as claim 21.

Regarding claim 36, this claim is rejected under the same rationale as claim 22.

Regarding claim 37, this claim is rejected under the same rationale as claim 23.

Regarding claim 55, this claim is rejected under the same rationale as claim 13.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Suzuki (US 5,757,366) discloses of detecting the abnormality of the horizontal and vertical synchronizing signals, and new video data is provided based on the determination of the signal being abnormal.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

28 March 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER
